

REMARKS

In the Office Action mailed from the United States Patent and Trademark Office on October 17, 2006, the Examiner rejected claims 90-117. In this response, claims 90, 96, 97, and 104 are amended, and claims 118 and 119 are new. Applicant respectfully requests continued examination and reconsideration of this application.

The Office Action of October 17, 2006 (hereinafter the "Office Action") is the most recent office action on the merits in this application. In the Office Action, claims 90-117, were rejected under 35 U.S.C. §102(b) or under 35 U.S.C. §103(a) as anticipated by or obvious in light of US Patent No. 5,152,695 to Grabbe et al. ("Grabbe"). Applicants respectfully traverse these rejections.

Independent claim 90 recites "[a]n electronic component comprising . . . a substrate . . . and a resilient, conductive contact structure." Claim 90 further recites that "the base portion [of the contact structure comprises] a plurality of layers," and claim 90 recites that "a first of the layers comprising a first material and a second of the layers comprising a second material, the first material being different than the second material." Grabbe fails to teach or suggest a contact structure with a base portion comprising a plurality of layers much less layers comprising different materials. For example, as can be seen in Figures 1-10, Grabbe's platform 20 (which the PTO equated with the base portion of claim 90) comprises only one layer of material.

Moreover, there is no teaching or suggestion in the prior to modify Grabbe's connectors 10 to include platforms 20 that are made of multiple layers of different materials. Indeed, Grabbe expressly teaches stamping or machining connectors 10, including platforms 20, from a single sheet of material 30. (See Grabbe Figure 2 and col. 2, lines 17-24.)

Applicants note that the inclusion of a base with multiple layers ones of which can be made of different materials provides advantages not found in Grabbe. For example, one of the layers of material that forms the base portion of claim 90 can be a thin, electrically conductive seed layer, and a second layer (or layers) can comprise a bulk material (or materials) that forms the primary structure of the base portion. The thin seed layer is advantageous because, as is known in the electroplating art, the second layer (or

layers) can be deposited onto the seed layer using an electroplating process. The presence of the seed layer thus allows the bulk of the base to be formed by. Again, Grabbe provides no such advantages.

As another example, the different materials can be selected to impart different desired characteristics to the base. As just one example, one material can be selected for its mechanical characteristics, such as strength or resilience, and the other material can be selected for its electrical characteristics, such as high conductivity. By the proper selection of different materials, the base portion can thus be configured to have a number of desired characteristics. In contrast, the characteristics of Grabbe's platform 20 are limited to the characteristics of the one material of which the platform 20 is made.

Applicants note that claim 90 is not limited to an electronic component that includes the foregoing advantages. Applicants mention these advantages solely to show that the recitation in claim 90 that the base portion comprises "a plurality of layers . . . comprising a first material and a . . . second [different] material" is not obvious.

For at least the foregoing reasons, Applicants respectfully assert that claim 90 is patentable over Grabbe.

Claims 91-103 and new claims 118 and 119 depend from claim 90 and, at least because of that dependency, are also patentable over Grabbe. Moreover, claims 91-103, 118, and 119 recite additional features not taught or suggested by Grabbe. For example, claim 118 recites "an electrically conductive seed layer and a layer of structural material disposed on the seed layer." As discussed above, Grabbe's platforms 20 are made of one layer of the same material and thus do comprise "an electrically conductive seed layer and a layer of structural material disposed on the seed layer." As another example, claim 119 recites that "the beam portion comprises the plurality of layers of materials." Grabbe's arms 22, like Grabbe's platform 20, consist of one layer of one material. The claims that depend from claim 90 thus further distinguish over Grabbe.

Independent claim 104 recites the following: "each contact structure [comprises] a base portion electrically coupled to the conductive area of the first substrate, ***one and only one tip portion*** displaced away from the first substrate, and ***one and only one beam portion*** between the base portion and the tip portion." In contrast, Grabbe's connectors 10 each include two arms 22 (which the PTO equated with the beam portion of claim

104) and two raised contact surfaces 26 (which the PTO equated with the tip portion of claim 104).

Moreover, there is no teaching or suggestion that would lead a person of ordinary skill in the field to modify Grabbe's connectors 10 to include only one arm 22 and only one raised contact surface 26 per connector 10. In fact, Grabbe never mentions or discloses a connector that does not include multiple arms and multiple tips. For instance, all figures (Figure 1-18) show connectors 10 with pairs of spring arms 22 and pairs of raised contact surfaces 26. Indeed, Grabbe teaches that multiple arms 22 and multiple raised contact surfaces 26 per connector 10 is an essential feature of the invention. (Grabbe col. 3, lines 5-14.)

For at least the foregoing reasons, claim 104 is patentable over Grabbe.

Claims 105-117 depend from claim 104 and, at least because of that dependency, are also patentable over Grabbe.

Conclusion:

In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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